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Assessing cytokine signatures and cytolytic potential for T cells and NK cells used for immune therapy

Cancer and infectious diseases can be treated by enhancing immune surveillance. Suitable immune therapies can rely on in vitro expansion of the reactive lymphocytes through cell line development, e.g. the expansion and activation of natural killer cells, or of antigen-specific T cells for T cell therapy. Gene therapy is suited for the induction or enhancement of immunity to cancer and infectious agents via vaccination, or the generation of chimeric antigen receptor (CAR)-T cells. All these immune therapeutic measures have in common the induction and expansion of rare effector cell types, along with gearing these cells towards the desired effector functions. Therefore, measurements of frequencies and functions of the specific effector cells are key for judging therapeutic potentials. The talk will focus on a technology that permits to do this by multiplex ImmuSpot® measurements, establishing the cytokine signatures and cytolytic potential of antigen-specific T cells and NK cells. This technology has been validated for immune monitoring in clinical trials and also lends itself for batch testing of cells to be injected for cell therapy.

Biography

Paul von Hoegen is Senior Director Business Development at CTL Europe. Before, he was leading the European science based business development for JPT Peptide Technologies. He managed Biotechnology and Biobanking projects at the Weinberg Group in Brussels (Belgium) and served as Scientific Leader in several biotechnology companies (Biovector Therapeutics, Pharmexa and Europroteome) working in Immunology and vaccine development for infectious diseases and cancer. He studied Biology at the University of Cologne, Germany, and obtained his PhD in Immunology at the University of Heidelberg, Germany. He worked at the Stanford University and SyStemix, USA and headed a Junior Group in Cancer Vaccination at the German Cancer Centre Heidelberg, Germany. In 1995, he joined GSK Biologics where he headed the Cellular Immunology Group and initiated several therapeutic vaccine projects. He is the author and co-author of numerous publications and has been involved in multiple R&D collaboration projects.

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